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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,818	04/26/2005	Christophe Labreuche	4590-395	9375
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LOWE HAUPTMAN & BERNER, LLP 1700 DIAGONAL ROAD, SUITE 300 ALEXANDRIA, VA 22314			EXAMINER BROWN JR, NATHAN H	
			ART UNIT 2121	PAPER NUMBER
			MAIL DATE 12/26/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/532,818

Applicant(s)

LABREUCHE, CHRISTOPHE

Examiner

Nathan H. Brown, Jr.

Art Unit

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE (3) MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2007.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## Examiner's Detailed Office Action

1. This Office Action is responsive to the communication for application 10/532,818, filed August 23, 2007.
2. Claims 1-19 are pending. Claims 1, 4, 5, and 19 are currently amended. Claims 2, 3, and 6-18 are previously presented.
3. After the previous office action, claims 1-19 stood rejected.

## Claim Objections

4. Claim 1 is objected to because of the following informalities: "deducing for the values of the set of rules used to deduce the decision" should be --deducing the values of the set of rules used to deduce the decision--. Appropriate correction is required.

## Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1-18 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter: abstraction, algorithm, and/or software per se. Amended independent claim 1 recites a "a theorem proving decision support system

using a method of decision making by an expert in the absence of clearly identifiable rules". Examiner considers: decision trees, singular point sets, fuzzyfying compensation rules, and values deduced for a set of rules used to deduce an arbitrary decision; to be mathematical abstractions. Examiner considers the steps of the "method of decision making by an expert in the absence of clearly identifiable rules" to recite an algorithm. Therefore the claim includes the 101 judicial exceptions of abstraction and algorithm. Now, claim 1 recites no physical transformation or practical application for the decision for which values were deduced, therefore Examiner considers claim 1 to recite only the 101 judicial exceptions of abstraction and algorithm. Examiner considers the "theorem proving decision support system" to comprise only of software and thus claim 1 to be directed to software per se. Therefore claim 1 is considered to be non-statutory under 35 U.S.C. 101. Since claims 2-18 depend from claim 1 providing only detailed mathematical and algorithmic limitation to claim 1 and not curing the deficiencies of claim 1, claims 1-18 are considered to be non-statutory under 35 U.S.C. 101.

7. Claim 19 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter: abstraction, algorithm, and/or software per se. Amended independent claim 19 recites a "a theorem proving decision support system using a method of decision making by an expert in the absence of clearly identifiable rules". Examiner considers: decision trees, variables, compensation conditions, parameters of decision trees, and an arbitrary decision deduced from a set of rules; to be mathematical abstractions. Examiner considers the steps of the "method of decision

making by an expert in the absence of clearly identifiable rules” to recite an algorithm. Therefore the claim includes the 101 judicial exceptions of abstraction and algorithm. Now, claim 19 recites no physical transformation or practical application for the decision deduced, therefore Examiner considers claim 19 to recite only the 101 judicial exceptions of abstraction and algorithm. Examiner considers the “theorem proving decision support system” to comprise only of software and thus claim 19 to be directed to software per se. Therefore, claim 19 is considered to be non-statutory under 35 U.S.C. 101.

## Response to Arguments

8. Applicant's arguments filed August 23, 2007 have been fully considered.

### Rejection of Claims 1-19 Under 35 U.S.C. §101

Applicant argues:

Claims 1-19 are rejected under 35 U.S.C. 101 because the Office Action states that the claimed subject matter is directed to non-statutory subject matter. Applicant respectfully traverses this rejection.

The present invention relates to a "real world application": in fact it is a tool (or a system), e.g. a computer-run expert program (see page 17, lines 25-28 of the specification as amended by the preliminary amendment filed on April 26, 2005). This tool is designed for and used by an expert (an expert is mentioned throughout the specification, see e.g. page 5, two last lines, page 11, lines 15-17, page 13, line 31, and so on). This tool is used for performing calculation that could not be performed by a human within a limited time, more especially when

many parameters are involved (see the mathematical expressions throughout the specification).

Examiner responds:

Examiner notes that even if a “tool ... used for performing calculation that could not be performed by a human within a limited time” has practical application (such as advancing certain areas of research in computer science), it is still considered to be abstract as it: is not embodied in, nor operates on, nor transforms, nor otherwise involves another class of statutory subject matter, i.e., a machine or composition of matter. (see *In Re Stephen W. Comiskey* (fed. cir. 2007))

Applicant argues:

The aim of the tool is to ask the expert to specify a certain number of points situated on the boundary between the “we compensate perfectly” zone and the “we compensate a little” zone, and on the boundary between the “we do not compensate at all” zone and the “we compensate a little” zone (see page 13, lines 12-18). In other words, one major step of the claimed method includes in questioning the expert on a set of singular points of the compensation belonging to the boundary between two zones (see page 13, lines 30-32).

Examiner responds:

Examiner considers the ‘zones of compensation’ to be no more than mathematical abstractions applied to no particular real-world problem (e.g., final share price calculation). Asking an expert to “specify a certain number of points situated on the boundary” between such zones is merely the solicitation of abstract mathematical data representing no specific and substantial real-world problem.

Applicant argues:

To ensure that claim 1 is patentable, Applicant has amended claim 1 in accordance with the Examiners helpful suggestion in the Office Action (page 4, last paragraph) where it is suggested that claim 1 be amended to recite "theorem proving decision support system". Claim 19 has been similarly amended. Accordingly, the §101 rejection should be withdrawn.

Examiner responds:

Amending independent claims 1 and 19 to recite "theorem proving decision support system" does not overcome the fact that the claims are directed to abstraction, algorithm, and/or software per se. The "method" the claims recite the system as using comprise a series of steps in a mathematical algorithm resulting in a deduced decision and/or associated 'rule values'. Neither the Claims nor the Specification disclose an application of the mathematical techniques disclosed to a specific and substantial real-world problem (e.g., final share price calculation). Nor does the Specification indicate that the invention comprises of anything more than rules, decision trees, and other mathematical entities (i.e., abstraction and/or software per se). That the systems asks an 'expert' for things like reference indices or "relevant intermediate points" between points in some abstract space, again, does not render the results of the system relevant or directed to solving anything other than problems in theorem proving, as disclosed in the Specification. Examiner, therefore, maintains the rejection of claims 1-19 under 35 U.S.C. §101.

Rejection of Claims 1 and 10 Under 35 U.S.C. §103(a)

Applicant argues:

Claim 1 and 10 are rejected under 35 U.S.C. 103(a). In response, claim 1 has been amended and is believed to be patentable over any combination of references for the reasons discussed below.

The Examiner has previously conceded that neither Tomita or Tzes teach asking questions to allowing the system to introduce a compensation condition into the non- clearly identifiable rules. Claim 1 has been amended to recite introducing compensation rules into the decision tree and fuzzyfying the compensation rules. Further, questions are asked of an expert as opposed to Bottledooren who relies instead on aggregation for compensation from public opinion surveys.

Bottledooren uses fuzzy logic, but does not introduce any compensation condition (i.e. a compensation of a parameter by another parameter) in the general noise annoyance survey: a noise cannot be compensated by another noise.

Tzes merely discloses fuzzyness in modeling, but does not suggest any compensation, since a compensation would be of no use at all in driving a motor. In the same way, it would be a nonsense to use any compensation method in Tomita in order to study manuscripts. The Examiner states that Bottledooren gives numerous examples of aggregation used in compensation and public opinion surveys compare asking questions. Claim 1 has been amended to emphasize the questioning of the expert on a set of singular points of the compensation belonging to the boundary between two zones for one of which the compensation is not clearly expressed..

Hence, any combination of the cited references could never teach or suggest the method of the present invention. The obvious rejection should be withdrawn.

All objections and rejections having been addressed, it is respectfully submitted that the present application should be in condition for allowance and a Notice to that effect is earnestly solicited.

Examiner responds:

Examiner finds Applicant's argument persuasive and withdraws the rejection of claims 1 and 10 under 35 U.S.C. §103(a).



## Conclusion

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


## Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan H. Brown, Jr. whose telephone number is 571-272- 8632. The examiner can normally be reached on M-F 0830-1700. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Vincent can be reached on 571-272-3080. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information

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David Vincent  
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Nathan H. Brown, Jr.  
December 20, 2007